

# Mineral Industry Surveys

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## COPPER IN MAY 1999

Average daily mine production in May fell by about 9% in response to cutbacks in mine production. Average daily smelter production plummeted by more than 30% owing to the closure, initially for maintenance and upgrade, of the San Manuel Smelter and to significantly reduced production from a second smelter. Average daily production of primary refined copper fell by only 10%. A drawdown of anode inventories helped to mitigate the shortfall in anode production. Average daily refined copper consumption was essentially unchanged for May and was at about the same level as that for May of 1998. Consumption of refined copper for the first 5 months of 1999 of 1,250,000 metric tons was essentially unchanged from that during the first 5 months of 1998.

### Copper prices

Copper prices in May continued to inch upward from their lowest level of the year, in March, the Platt's Metals Week U.S. Producer price rising to an average \$0.75 per pound during the first week of May, before retreating back to a range of \$0.66 to \$0.68. Industry fundamentals remained unchanged during the price rise, with metal exchange warehouse inventories continuing their upward trend. Global inventories held in London Metal Exchange warehouses rose by 28,000 tons in May while COMEX warehouse stocks remained essentially unchanged. The price rise may have been fueled by purchases by fund managers speculating that a recovery in Asian copper demand coupled with production cuts would lead to higher prices, and the price fall by the sell-off of long positions when the fundamentals failed to support their theory. Shutdown of the 170,000-ton-per-year Highland Valley Mine in British Columbia, and the disruption to power supply at the Bor Refinery in Serbia, caused by NATO bombing, did little to change the fundamental copper oversupply (Platt's Metals Week, 1999a). Copper prices remained in the low range until the end of June, when U.S. companies announced major cutbacks in

capacity (See Copper in April 1999). By the second week of July, copper prices had risen to their highest levels of the year, the U.S. producer price averaging \$0.81 for the week ending July 16.

Industry reports that low copper prices have led to a severe shortage of scrap are supported by USGS data showing a continued downward trend in refined copper recovery from scrap as shown on table 5. Market tightness for scrap was also reflected in the narrowing margins between scrap and refined prices. As shown on tables 12 and 13, for example, the margin, or price discount, for No. 1 scrap from the Comex price fell from almost 1.2 cents per pound in May 1998 to 0.5 cents per pound in May 1999. This compares to an average margin of 4 cents per pound in 1997.

The combination of a tight global supply of copper concentrate and low refined prices has resulted in a dramatic decline in smelting (treatment) and refining charges. According to one report, combined treatment and refining charges on the spot market had fallen to less than 7 cents per pound, down by more than 50% from the previous year, while new long-term contracts were being negotiated at a range of about 13 cents per pound, a decline of about 25% from contracts in force (Platt's Metals Week, 1999b). According to CRU International Ltd., annual contract treatment and refining terms in force for 1999 average about 18 cents per pound, down from about 25 cents in 1998 (CRU International Ltd., 1999).

### Update

On July 15, Cyprus Amax Minerals Co. and ASARCO Incorporated announced an agreement for the combination of the two companies in a "merger-of-equals" transaction. The new company, Asarco Cyprus Incorporated, would be the largest publically traded copper producer in the world with mine production of about 900,000 tons of copper per year. Under

terms of the proposed merger, Cyprus Amax shareholders would receive 0.765 share in the new company per share of common stock, while Asarco shareholders would get a direct conversion. The merger was expected to realize an annual cost savings of \$150 million from corporate overhead, administrative, and other cost savings. Corporate headquarters will be in New York City, while operational headquarters will be in Tempe, AZ (Cyprus Amax Minerals, 1999).

## References Cited

- CRU International Ltd., 1999, Copper Quarterly Industry Market Outlook: CRU International, London, April, p. 43.
- Cyprus Amax Minerals, 1999, Cyprus Amax Minerals Company and ASARCO Incorporated announce merger of equals: Cyprus Amax Minerals, Company press release, July 15, 3 p.
- Platt's Metals Week, 1999a, Fund bailout drags copper prices to new lows: Platt's Metals Week, v. 70, no. 22, May 31, p. 1, 15.
- 1999b, Tight concs supply halts drop in spot copper TC/RCs: Platt's Metals Week, v. 70, no. 13, March 29, p. 1, 5.

TABLE 1  
SALIENT STATISTICS OF THE COPPER INDUSTRY IN THE UNITED STATES 1/

(Metric tons, unless noted)

	Source table 2/	1998 p/	1999		
			April	May	January - May
<b>Production:</b>					
<b>Primary:</b>					
Mine, recoverable	(2)	1,860,000	144,000	136,000	732,000
Smelter 3/	(3)	1,490,000	124,000 r/	85,500	545,000
<b>Refinery:</b>					
<b>Electrolytic:</b>					
Domestic	(4)	1,290,000	112,000 r/	107,000	505,000
Foreign	(4)	238,000	19,100 r/	11,800	107,000
Electrowon	(4)	590,000	47,800 r/	47,700	242,000
Total	(4)	2,120,000	178,000 r/	166,000	854,000
<b>Secondary recoverable copper:</b>					
Refineries	(5)	336,000	17,600 r/	14,200	96,700
Ingot makers 4/	(5)	132,000	11,000	11,000	54,900
Brass and wire-rod mills	(5)	811,000	69,800	68,200	351,000
Foundries, etc.	(5)	55,400	4,610	4,610	23,100
<b>Consumption:</b>					
Total apparent	(8)	3,010,000	246,000	NA	NA
Refined (reported)	(7)	2,880,000	242,000 r/	252,000	1,250,000
Purchased copper-base scrap	(9)	1,720,000 r/	152,000 r/	147,000	770,000
<b>Stocks at end of period:</b>					
Total refined	(11)	531,000	641,000 r/	642,000	XX
Blister, etc.	(11)	160,000 r/	147,000 r/	133,000	XX
<b>Prices:</b>					
U.S. producer cathode (cents per pound) 5/	(12)	78.641	70.662	72.720	69.173
<b>Imports: 6/</b>					
Ores and concentrates 7/	(14)	217,000	--	NA	NA
Refined	(14)	683,000	59,900	NA	NA
<b>Exports: 6/</b>					
Ores and concentrates 7/	(15)	36,500	1,620	NA	NA
Refined	(15)	86,200	1,340	NA	NA

p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Numbers in parentheses refer to the detailed tables where these data are located.

3/ From domestic and foreign ores.

4/ Monthly data estimated based on 1997 monthly average.

5/ Source: Platt's Metals Week.

6/ Source: Bureau of the Census.

7/ Copper content.

TABLE 2  
MINE PRODUCTION OF RECOVERABLE COPPER  
IN THE UNITED STATES 1/

(Metric tons)

Period	State		Total
	Arizona	Others 2/	
1998: p/			
May	99,000	56,100	155,000
June	99,600	52,200	152,000
July	102,000	55,600	158,000
August	102,000	61,600	163,000
September	97,000	56,900	154,000
October	95,900	59,900	156,000
November	97,300	57,400	155,000
December	101,000	56,600	157,000
January - May r/	397,000	212,000	609,000
Year	1,190,000	668,000	1,860,000
1999:			
January	99,400	55,500	155,000
February	89,600	48,300	138,000
March	102,000	56,700	159,000
April	95,000	49,200	144,000
May	87,700	48,100	136,000
January - May	474,000	258,000	732,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes production from Alaska, Idaho, Missouri, Montana, Nevada, New Mexico, Tennessee, and Utah.

TABLE 3  
COPPER PRODUCED AT SMELTERS IN THE  
UNITED STATES, BY SOURCE 1/ 2/

(Metric tons, copper content)

Period	Domestic and foreign ores		Scrap	Total
1998: p/				
May	115,000		21,000	136,000
June	97,900		18,800	117,000
July	124,000		19,200	143,000
August	121,000		19,700	141,000
September	116,000		18,000	134,000
October	156,000		17,100	173,000
November	134,000		19,000	153,000
December	120,000		18,000	138,000
January - May r/	617,000		103,000	720,000
Year	1,490,000		232,000	1,720,000
1999:				
January	106,000		18,300	125,000
February	113,000		16,100	129,000
March	116,000		14,700	131,000
April	124,000 r/		15,500 r/	140,000 r/
May	85,500		13,900	99,400
January - May	545,000		78,600	624,000

p/ Preliminary. r/ Revised.

1/ Includes blister, anode and black copper from primary or secondary sources.

2/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 4  
PRODUCTION OF REFINED COPPER, BY SOURCE AND METHOD OF RECOVERY 1/

(Metric tons)

Period	Primary materials				Scrap			Total refined
	Electrolytically refined 2/		Electrowon	Total	Electro-lytically refined 2/	Fire refined	Total	
	Domestic 3/	Foreign						
1998: p/								
May	109,000	16,000	50,400	175,000	14,200	7,970	22,100	197,000
June	95,000	18,100	49,500	163,000	15,500	9,650	25,200	188,000
July	93,300	22,500	51,400	167,000	18,000	11,500	29,500	197,000
August	106,000	19,000	50,900	176,000	11,800	13,400	25,200	201,000
September	102,000	23,200	48,300	174,000	15,600	9,380	25,000	199,000
October	107,000	26,100	48,000	181,000	17,500	15,500	33,100	214,000
November	106,000	24,400	50,000	181,000	14,700	8,630	23,300	204,000
December	115,000	22,300	51,300	189,000	17,000	9,320	26,400	215,000
January - May	568,000 r/	82,500 r/	241,000 r/	891,000 r/	91,400 r/	57,100	148,000 r/	1,040,000
Year	1,290,000	238,000	590,000	2,120,000	202,000	134,000	336,000	2,460,000
1999:								
January	85,400	26,700	50,300	162,000	12,500	7,230	19,700	182,000
February	84,200	24,200	45,700	154,000	12,400	9,100	21,500	176,000
March	117,000	25,600	50,500	193,000	14,700	8,970	23,700	217,000
April	112,000 r/	19,100	47,800 r/	178,000 r/	12,100	5,550	17,700	196,000 r/
May	107,000	11,800	47,700	166,000	9,800	4,390	14,200	180,000
January - May	505,000	107,000	242,000	854,000	61,500	35,200	96,700	951,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Based on source of material at smelter level.

3/ Includes fire-refined copper.

TABLE 5  
COPPER RECOVERABLE IN UNALLOYED AND ALLOYED FORM FROM PURCHASED COPPER-BASED SCRAP 1/

(Metric tons, copper content)

Period	Refineries 2/		Ingot makers 3/		Brass and wire-rod mills		Foundries, etc. 4/		Total 5/
	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
1998: p/									
May	3,830	18,300	2,930	8,040	62,300	3,070	956	3,660	103,000
June	5,120	20,100	2,930	8,040	67,300	3,260	956	3,660	111,000
July	5,810	23,600	2,930	8,040	60,300	3,390	956	3,660	109,000
August	7,550	17,600	2,930	8,040	61,800	2,930	956	3,660	105,000
September	4,770	20,200	2,930	8,040	67,100	3,080	956	3,660	111,000
October	9,630	23,400	2,930	8,040	67,000	2,690	956	3,660	118,000
November	4,090	19,200	2,930	8,040	63,400	2,790	956	3,660	105,000
December	4,500	21,900	2,930	8,040	61,800	1,370	956	3,660	105,000
January - May	31,800	117,000 r/	14,700 r/	40,200 r/	332,000 r/	10,900	4,780 r/	18,300 r/	569,000 r/
Year	73,300	263,000	35,200	96,500	781,000	30,400	11,500	43,900	1,330,000
1999:									
January	3,290	16,400	2,930	8,040	64,600	2,740	956	3,660	103,000
February	4,480	17,000	2,930	8,040	66,400	3,030	956	3,660	106,000
March	5,130	18,600	2,930	8,040	72,800	3,070	956	3,660	115,000
April	3,830	13,800	2,930	8,040	67,200 r/	2,540	956	3,660	103,000
May	3,120	11,100	2,930	8,040	66,100	2,020	956	3,660	97,900
January - May	19,800	76,800	14,700	40,200	337,000	13,400	4,780	18,300	525,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Electrolytically refined and fire-refined scrap based on source of material at smelter level.

3/ Data no longer collected monthly; data estimated based on 1997 annual data.

4/ Data estimated based on 1997 annual data.

5/ Does not include an estimate, based on reported 1997 data, of 3,900 tons per month from new scrap and 2,530 tons per month from old scrap of copper recovered from scrap other than copper-base.

TABLE 6  
PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD MILL SEMIFABRICATES 1/

(Metric tons, gross weight)

Period	Production		Shipments		Stocks, end of period	
	Brass mills	Wire rod mills	Brass mills	Wire rod mills	Brass mills	Wire rod mills
1998: p/						
May	132,000	187,000	133,000	178,000	61,500	42,600
June	113,000	173,000	122,000	176,000	53,100	40,300
July	130,000	166,000	126,000	165,000	57,100	41,000
August	130,000	160,000	129,000	167,000	57,900	33,900
September	140,000	172,000	138,000	174,000	59,600	31,300
October	138,000	185,000	138,000	185,000	60,300	30,700
November	132,000	181,000	133,000	172,000	59,300	39,800
December	128,000	144,000	125,000	153,000	62,500	30,900
January - May r/	676,000	918,000	679,000	908,000	XX	XX
Year	1,590,000	2,100,000	1,590,000	2,100,000	XX	XX
1999:						
January	138,000	180,000	141,000	174,000	59,500	36,800
February	134,000	178,000	135,000	175,000	58,000	40,100 r/
March	139,000	190,000 r/	146,000	193,000 r/	50,500	37,100
April	142,000 r/	182,000 r/	138,000	184,000	54,000 r/	35,800 r/
May	138,000	184,000	136,000	182,000	54,600	37,800
January - May	690,000	914,000	697,000	908,000	XX	XX

p/ Preliminary. r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 7  
CONSUMPTION OF REFINED COPPER 1/

(Metric tons)

Period and item	Wire rod mills	Brass mills 2/	Other plants 3/	Total
1998: p/				
May	190,000	55,200	4,310	250,000
June	181,000	52,700	4,310	238,000
July	173,000	50,500	4,310	228,000
August	165,000	54,800	4,310	224,000
September	165,000	56,100	4,310	226,000
October	196,000	57,100	4,310	257,000
November	190,000	52,900	4,310	247,000
December	149,000	51,600	4,310	204,000
January - May	954,000 r/	283,000 r/	21,500 r/	1,260,000
Year	2,170,000	659,000	51,700	2,880,000
1999:				
January	186,000	58,400	4,310	249,000
February	185,000	50,900	4,310	240,000
March	209,000	55,500	4,310	269,000
April	184,000	53,700	4,310	242,000 r/
May:				
Cathodes	187,000	43,800	944	232,000
Wire bars	--	--	W	W
Ingots and ingot bars	--	1,520	1,540	3,070
Cakes and slabs	--	5,550	W	5,550
Billets and other	1,020	8,670	1,820	11,500
Total	188,000	59,500	4,310	252,000
January - May	952,000	278,000	21,500	1,250,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Billets and other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ In 1997, brass mills consumed 1,500 tons of refined lead, 700 tons of pig tin, 2,300 tons of refined nickel, and 54,400 tons of slab zinc.

3/ Consumption by ingot makers, chemical plants, foundries, and miscellaneous manufacturers is estimated based on 1997 annual data.

TABLE 8  
U.S. APPARENT CONSUMPTION OF COPPER 1/

(Metric tons)

Period	Refined copper production	Copper in old scrap 2/	Refined general imports 3/	Refined exports 3/	Stock change during period	Apparent consumption
1998: p/						
May	175,000	35,600	68,800	7,760	2,510	269,000
June	163,000	37,600	52,800	6,300	(582)	248,000
July	167,000	41,200	55,400	7,470	7,440	249,000
August	176,000	34,800	49,600	6,360	14,700	239,000
September	174,000	37,500	77,000	5,820	37,700	245,000
October	181,000	40,300	53,200	4,990	15,500	254,000
November	181,000	36,200	70,300	3,610	37,100	247,000
December	189,000	37,500	54,700	6,200	64,600	210,000
January - April	716,000 r/	163,000 r/	243,000	37,700	38,300 r/	1,050,000 r/
Year	2,120,000	464,000	725,000	86,200	217,000	3,010,000
1999:						
January	162,000	33,400	64,700	2,350	26,000	232,000
February	154,000	34,300	58,500	1,120	24,700	221,000
March	193,000	35,900	86,000	1,840	31,300	282,000
April	178,000 r/	30,600	66,300	1,340	27,600 r/	246,000
May	166,000	27,400	NA	NA	1,260	NA
January - April	687,000	134,000	275,000	6,650	110,000	980,000

p/ Preliminary. r/ Revised. NA Not available.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes reported monthly production of copper from old scrap of copper-base and estimates for annual reporters and of non-copper-base materials based on 1997 data.

3/ Source: Bureau of the Census.

TABLE 9  
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP 1/

(Metric tons, gross weight)

Period	Smelters and refineries		Ingot makers 2/		Brass and wire-rod mills 3/		Foundries, etc. 2/		Total scrap used
	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
1998: p/									
May	3,990	29,000	3,910	11,700	78,600	3,170	1,130	4,090	136,000
June	7,550	29,100	3,910	11,700	84,400	3,360	1,130	4,090	145,000
July	7,150	30,900	3,910	11,700	76,500	3,460	1,130	4,090	139,000
August	8,950	32,500	3,910	11,700	78,000	3,010	1,130	4,090	143,000
September	5,910	25,800	3,910	11,700	84,200	3,190	1,130	4,090	140,000
October	10,600	28,600	3,910	11,700	84,800	2,770	1,130	4,090	148,000
November	5,270	29,800	3,910	11,700	80,400	2,870	1,130	4,090	139,000
December	4,900	27,500	3,910	11,700	78,500	1,440	1,130	4,090	133,000
January - May	37,100	159,000 r/	19,500 r/	58,600 r/	420,000 r/	11,300 r/	5,670 r/	20,400 r/	731,000 r/
Year	87,500	363,000	46,900	141,000	987,000	31,400	13,600	49,100	1,720,000
1999:									
January	4,360	43,300	3,910	11,700	81,200	2,800	1,130	4,090	153,000
February	5,490	42,800	3,910	11,700	83,900	3,130	1,130	4,090	156,000
March	5,620	39,600	3,910	11,700	92,500	3,170	1,130	4,090	162,000
April	4,650	38,200	3,910	11,700	85,700 r/	2,620	1,130	4,090	152,000 r/
May	4,140	36,400	3,910	11,700	83,800	2,090	1,130	4,090	147,000
January - May	24,300	200,000	19,500	58,600	427,000	13,800	5,670	20,400	770,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data estimated from 1997 annual data.

3/ Consumption at brass and wire-rod mills assumed equal to receipts.

TABLE 10  
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP 1/ 2/

(Metric tons, gross weight)

Scrap type and processor	1998 p/		1999			
	January - May	Year	March	April	May	January - May
No. 1 wire and heavy:						
Smelters and refiners	64,300 r/	139,000	7,860	7,570	5,940	35,400
Brass and wire-rod mills	170,000 r/	411,000	37,900	35,800 r/	36,100	181,000
No. 2 mixed heavy and light:						
Smelters and refiners	80,800 r/	199,000	13,900	11,100 r/	9,910	66,800
Brass and wire-rod mills	14,500	32,600	3,630	1,510 r/	1,080	11,400
Total unalloyed scrap:						
Smelters and refiners	145,000 r/	338,000	21,700	18,700 r/	15,900	102,000
Brass and wire-rod mills	185,000 r/	443,000	41,500	37,300 r/	37,200	192,000
Red brass: 3/						
All plants	27,200 r/	63,200	5,300	5,200	5,330	26,500
Leaded yellow brass:						
All plants	179,000 r/	422,000	39,700	36,800	35,500	179,000
Yellow and low brass:						
All plants	26,000	60,700	6,300	6,230	5,910	31,100
Cartridge cases and brass:						
Smelters and refiners	W	W	W	W	W	W
Brass mills	35,500	81,700	6,710	6,830 r/	6,550	33,500
Auto radiators:						
Smelters and refiners	26,200 r/	61,400	6,040	6,020	6,040	30,100
Bronzes:						
Smelters and refiners	5,040 r/	12,100	1,010	1,010	1,010	5,040
Brass mills	6,050 r/	13,600	966	730 r/	747	4,440
Nickel-copper alloys:						
All plants	7,210	17,100	2,010	1,960 r/	1,420	8,490
Low grade & residues:						
Smelters and refiners	52,700 r/	119,000	23,100	23,500 r/	24,500	120,000
Other alloy scrap: 4/						
Smelters and refiners 5/	8,700 r/	19,700	1,730	2,040	1,540	9,470
Brass mills	1,960	4,620	409	409	400	2,040
Total alloyed scrap:						
Smelters and refiners	129,000 r/	300,000	39,100	39,800 r/	40,300	200,000
Brass mills	247,000 r/	575,000	54,200	51,000 r/	48,700	249,000
Total scrap:						
Smelters and refiners	274,000 r/	638,000	60,900	58,400	56,100	303,000
Brass and wire-rod mills	432,000 r/	1,020,000	95,700	88,300 r/	85,900	441,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data.

1/ Does not include: consumption by foundries, chemical plants, and miscellaneous manufacturers, estimated to total about 5,200 tons of scrap per month in 1997; monthly data include estimates of about 32,000 tons of scrap per month consumed by ingot makers and several smelters that report on an annual basis.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Includes composition turnings, silicon bronze, zinc bronze, railroad car boxes, cocks and faucets, gilding metal, and commercial bronze.

4/ Includes refinery brass, beryllium copper, phosphor copper, and aluminum bronze.

5/ Includes items indicated by symbol W.



TABLE 11  
COPPER STOCKS AT END OF PERIOD 1/

(Metric tons)

Period	Crude copper 2/	Refined copper					Total refined	
		Refineries 3/	Wire rod mills 3/	Brass mills 3/	Other 4/	Comex 5/		LME 6/
1998: p/								
May	148,000	43,700	35,300	19,000	2,700	76,900	177,000	354,000
June	130,000	40,200	30,700	20,900	2,700	57,600	202,000	354,000
July	143,000	34,300	33,700	16,600	2,700	50,500	224,000	361,000
August	153,000	40,700	32,100	21,400	2,700	51,400	228,000	376,000
September	144,000	37,500	37,100	21,400	2,700	61,400	254,000	414,000
October	156,000	35,100	25,100	15,500	2,700	69,400	282,000	429,000
November	182,000	34,300	28,200	17,500	2,700	67,700	316,000	466,000
December	160,000	44,200	37,300	20,800	2,700	85,200	341,000	531,000
1999:								
January	143,000	45,600	43,100	20,600	2,700	92,400	353,000	557,000
February	148,000	44,100	32,400	22,000	2,700	104,000	377,000	582,000
March	132,000	48,200	29,700	21,000	2,700	112,000	400,000	613,000
April	147,000 r/	48,000 r/	28,000	21,200	2,700	120,000	420,000	641,000 r/
May	133,000	41,800	33,200	21,200	2,700	119,000	424,000	642,000

p/ Preliminary. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Copper content of blister and other materials in transit and in process of refining.

3/ Stocks of refined copper as reported; no estimates are made for non-respondents.

4/ Monthly estimates based on reported and 1997 annual data, comprising stocks at secondary smelters, chemical plants, foundries, and miscellaneous manufacturers.

5/ Commodity Exchange Inc., New York.

6/ London Metal Exchange Ltd., U.S. warehouses.

TABLE 12  
AVERAGE PRICE OF COPPER IN THE UNITED STATES AND  
ON THE LONDON METAL EXCHANGE

(Cents per pound)

Period	U.S. producers delivered price cathode 1/	Comex first position 2/	LME cash price Grade A
1998:			
May	81.573	78.023	78.566
June	78.553	74.902	75.302
July	79.033	75.373	74.872
August	76.962	73.302	73.501
September	79.277	75.617	74.716
October	75.926	72.266	71.940
November	75.210	71.513	71.377
December	69.915	66.255	66.825
January - December	78.641	75.077	75.008
1999:			
January	68.726	65.066	64.902
February	67.594	63.934	63.974
March	66.164	62.504	62.505
April	70.662	67.002	66.475
May	72.720	69.060	68.528
January - May	69.173	65.513	65.277

1/ Listed as "U.S. producer cathode."

2/ Listed as "Comex high grade first position."

Sources: Platt's Metals Week and American Metal Market.

TABLE 13  
NEW YORK AVERAGE BUYING PRICES FOR COPPER SCRAP

(Cents per pound)

Month	Brass mills No. 1 scrap	Refiners No. 2 scrap	Dealers (New York)	
			No. 2 scrap	Red brass turnings and borings
1998:				
May	76.78	63.23	52.90	40.55
June	73.68	60.15	48.95	40.00
July	74.10	60.60	47.95	40.00
August	72.24	59.06	49.00	40.00
September	73.31	60.33	49.00	40.00
October	71.00	57.55	47.00	40.00
November	70.37	57.14	46.00	40.00
December	65.40	52.70	41.91	36.73
January - December	73.55	60.19	49.46	40.33
1999:				
January	64.11	51.17	39.32	36.00
February	63.13	51.07	39.00	36.84
March	62.04	50.75	39.00	38.00
April	65.94	54.58	39.00	38.00
May	68.59	56.68	42.80	38.95
January - May	64.76	52.85	39.82	37.56

Source: American Metal Market.

TABLE 14  
U.S. IMPORTS FOR CONSUMPTION OF COPPER (UNMANUFACTURED), BY CLASS 1/

(Metric tons, copper content)

Country or territory	Ore and concentrate			Matte, ash and precipitates			Blister and anodes			Refined		
	1999			1999			1999			1999		
	1998	April	January - April	1998	April	January - April	1998	April	January - April	1998	April	January - April
Argentina	9,930	--	--	--	--	--	--	--	--	--	--	--
Brazil	--	--	--	--	--	--	--	--	--	9,000	2,500	4,810
Canada	1,690	--	--	140	--	--	82,100	6,780	28,000	265,000	22,200	91,900
Chile	147,000	--	39,600	--	--	--	24,100	2,880	12,800	78,700	2,230	13,800
Indonesia	29,400	--	31,900	--	--	--	--	--	--	--	--	--
Japan	--	--	--	240	49	49	(2/)	--	(2/)	8,680	1,150	1,720
Mexico	4,980	--	500	998	79	394	29,400	3,170	4,020	178,000	11,800	58,300
Namibia	--	--	--	--	--	--	3,360	--	--	--	--	--
Netherlands	--	--	--	551	77	339	--	--	--	4,570	453	1,760
Papua New Guinea	5,900	--	--	--	--	--	--	--	--	--	--	--
Peru	18,200	--	--	--	--	--	6,870	--	2,830	128,000	15,000	58,700
Russia	--	--	--	--	--	--	--	--	--	9,170	4,520	11,800
South Africa	--	--	--	--	--	--	2,830	--	--	--	--	100
Taiwan	--	--	--	213	18	69	--	--	--	42	--	20
Other	12	--	12	93	--	18	1,480	95	258	2,510	6	3,090
Total	217,000	--	72,000	2,230	223	868	150,000	12,900	47,900	683,000	59,900	246,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 15  
U.S. EXPORTS OF COPPER (UNMANUFACTURED), BY CLASS 1/

(Metric tons, copper content)

Country or territory	Ore and concentrate			Matte, ash and precipitates			Blister and anodes			Refined		
	1999			1999			1999			1999		
	January -			January -			January -			January -		
	1998	April	April	1998	April	April	1998	April	April	1998	April	April
Australia	45	--	--	18	--	2	58	17	245	29	--	--
Belgium	39	--	--	323	--	(2/)	961	--	22	17	--	399
Canada	33,600	1,540	7,040	12,800	3,910	14,300	16,400	4,440	8,040	16,100	1,180	5,610
France	--	--	1	30	--	--	554	--	140	37	--	5
Germany	1,470	--	--	6,660	3	12	92	--	20	294	--	2
Hong Kong	15	--	--	--	--	--	3,350	202	1,310	1,310	11	46
Italy	34	--	--	--	--	--	354	35	185	69	--	7
Japan	1,050	--	--	34	--	--	695	121	452	17,000	17	50
Korea, Republic of	46	--	14	15	--	--	130	22	107	2,870	13	18
Mexico	97	--	8,480	1,060	--	23	1,330	2	10	11,200	106	414
Netherlands	3	--	--	4	--	10	2	--	2	10,100	--	--
Singapore	--	--	--	6	--	--	726	103	226	687	--	--
Sweden	--	--	--	945	--	--	--	--	--	3	--	--
Taiwan	(2/)	--	--	--	--	14	1,800	243	523	19,100	--	6
Thailand	18	--	--	--	--	--	46	20	30	5,830	--	--
Other	152	84	124	97	17	43	604	32	374	1,620	19	90
Total	36,500	1,620	15,700	22,000	3,930	14,400	27,100	5,230	11,700	86,200	1,340	6,650

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 16  
U.S. COPPER SCRAP TRADE 1/

(Metric tons, gross weight)

Country or territory	Imports						Exports					
	Unalloyed			Alloyed			Unalloyed			Alloyed		
	1999			1999			1999			1999		
	1998	April	January - April	1998	April	January - April	1998	April	January - April	1998	April	January - April
Belgium	80	--	--	476	152	213	2,730	96	436	434	20	172
Bulgaria	1,010	--	--	--	--	--	--	--	--	--	--	--
Canada	30,900	443	2,160	55,800	3,840	16,300	39,600	2,650	5,160	68,200	2,310	16,100
Chile	3,310	40	1,620	1,440	100	582	--	--	--	3	--	--
China	--	--	--	101	11	11	28,600	3,360	10,900	20,700	3,580	10,500
Colombia	836	57	163	2,560	220	521	--	--	--	4	--	--
Costa Rica	800	55	192	778	96	295	--	--	--	--	--	--
Dominica	9	--	91	--	--	12	--	--	--	--	--	--
Dominican Republic	942	135	528	1,250	87	248	--	--	--	--	--	20
Germany	6	--	--	54	--	2	7,800	37	419	5,920	226	708
Guatemala	519	--	2	969	97	771	--	--	--	--	--	--
Hong Kong	--	--	--	113	--	11	14,400	576	2,340	23,600	292	1,420
India	--	--	--	--	--	--	3,460	294	1,270	24,900	3,220	11,700
Japan	19	18	74	126	15	49	10,200	891	2,490	10,400	1,020	3,890
Korea, Republic of	15	--	--	150	--	56	2,720	718	3,150	11,600	4,090	14,900
Malaysia	--	--	--	1,440	53	211	286	--	79	234	79	117
Mexico	12,900	920	3,330	35,400	2,400	9,750	1,230	36	187	10,200	1,150	5,530
Spain	12	--	--	477	44	182	60	--	2,740	1,860	--	--
Taiwan	109	--	16	720	28	265	2,110	395	788	6,210	876	2,310
United Kingdom	--	--	--	1,090	105	387	176	--	421	3,890	156	732
Venezuela	462	37	138	1,500	81	387	--	--	--	37	--	--
Other	2,470	142	469	6,880 r/	558	1,900	761 r/	189	1,280	5,170 r/	411	1,480
Total	54,400	1,850	8,790	111,000	7,890	32,200	114,000	9,240	31,600	193,000	17,400	69,500

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.